REMARKS

The Office Action dated August 10, 2005 has been carefully considered. Claims 15, 17 and 19 are in this application.

Claim 15 has been amended to include limitations of original claim 6. No new matter has been entered.

The previously presented claims were rejected under 35 U.S.C. § 103 as obvious in view of previously cited U.S. Patent No. 3,988,423 to Ohrui et al. in combination with U.S. Patent No. 4,418,045 to Sato et al. and further in combination with U.S. Patent No. 4,038,032 to Brewer et al. and U.S. Patent No. 4,101,632 to Lamberti et al. Applicants submit that the teachings of these references do not teach or suggest the invention defined by the present claims.

The present invention is directed to adjusting the oxygen balance to two heat exchangers, thereby reducing the occurrence of mist and preventing clogging at the exchangers. Particularly, the present invention relates to a system combined of a plurality of devices, the temperature of the outlet of the reactor is controlled by another method, and an oxygen concentration is also controlled by the amount of oxygen introduced. In order to adjust heating conditions of the two heat exchangers, the flow ratio of an oxygen containing gas which is introduced into the two portions is controlled.

The Examiner indicated that there is no structural distinction between the applied references as compared to the claimed invention except in the manner of operation. However, Applicants submit that none of the references teach the structure of a combination of a first and second pre-heater with a catalytic reactor and means for supplying treated gas emanating from the reactor to the second pre-heater device and to the heat-recovery device as a heat source and means for supplying the treated gas emanating from the second pre-heater device to the first pre-heater device as a heat source. Further, none of the references teach a molecular oxygen containing gas supplying device connected to the waste gas inlet of the first pre-heater device which is further connected to a region of the apparatus between the waste gas outlet of the first pre-heater device and the waste gas inlet of the second pre-heater device, and/or a region of the apparatus between the waste gas outlet of the second pre-heater device and the inlet of the reactor, a temperature measuring means for the treated gas emanating from said first waste gas

pre-heater and a molecular oxygen-containing fax flow controller to adjust the amount of the molecular oxygen-containing gas supplied to an arbitrary point between the waste gas outlet of the first waste gas pre-heater and the waste gas inlet of the reactor, the temperature of the treated gas emanating from the first waste gas pre-heater being set at an arbitrary level by adjusting the amount of the molecular oxygen-contain gas.

Ohrui et al. or Sato et al. do not teach or suggest that oxygen is introduced at two inlets of an inlet of a pre-heater device and a region of the apparatus between the waste gas outlet of the second pre-heater device and the inlet of the reactor and the molecular oxygen-containing gas supplying device receives a signal from an oxygen concentration detector disposed in a pipe on a treated gas outlet side of the first pre-heater. Further, Ohrui et al. or Sato et al. do not teach or suggest that an oxygen concentration detector is dispersed in a pipe or a treated gas outlet side to control concentration of oxygen supplied by the molecular oxygen-containing gas supplying device.

Further, the devices disclosed in both Brewer et al. or Lamberti et al. relate to combustion furnaces. Thus, both Brewer et al. or Lamberti et al. do not teach or suggest connecting a molecular oxygen containing supplying device at two positions of combined devices. The present inventon has the advantages of preventing the occurrence of mist and preventing clogging by controlling temperature of the gas exhausted from the first heat exchanger, thereby controlling the balance of temperature of the two heat exchangers. There is no teaching or suggestion in Brewer et al. or Lamberti et al. of this advantage. Rather, both Brewer et al. and Lamberti et al. teach a temperature controller that is equipped to control combustion and also an oxygen controller which is equipped to perform complete combustion. Thus Brewer et al. or Lamberti et al. relate full combustion of furnaces but to not teach or suggest a catalytic oxidation reactor for treating the waste gas by combustion combined with means for supplying the treated gas emanating from the reactor to the second pre-heater device and to the heat-recovery device as a heat source and means for supplying the treated gas emanating from the second pre-heater device to the first pre-heater device as a heat source. Further, Brewer et al. and Lamberti et al. do not teach or suggest the concept of controlling the temperature of a gas to be released to air. Brewer et al. or Lamberti et al. do not teach or suggest the first pre-heater for heating the waste

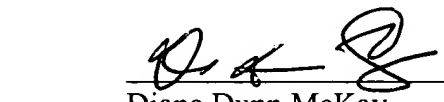
gas regarding the apparatus of a catalytic oxidation reactor for treating the waste gas by combustion.

Accordingly, the invention defined by the present claims is not obvious in view of Ohrui et al. in combination with Sato et al., Brewer et al. or Lamberti et al. because none of the references teach an apparatus for treating waste gas in which a molecular oxygen-containing gas supplying device supplies molecular oxygen to two parts in the apparatus an oxygen concentration detector is dispersed in a pipe or a treated gas outlet side to control concentration of oxygen supplied by the molecular oxygen-containing gas supplying device. Brewer et al. and Lamberti et al. do not teach or suggest recovering heat from treated gas regarding the apparatus of a catalytic oxidation reactor for treating the waste gas by combustion. Applicants submit that prevention of condensation of mist in the exhaust gas and the occurrence of clogging as described in the present invention is not described in Brewer et al. and Lamberti et al. and also is not described in Ohrui et al. and Sato et al.

In view of the foregoing, Applicants submit that all pending claims are in condition for allowance and request that all claims be allowed. The Examiner is invited to contact the undersigned should he believe that this would expedite prosecution of this application. It is believed that no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

Dated: December 12, 2005



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